



State of Utah

Department of  
Environmental Quality

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MEMORANDUM

DAQH-0854-06

TO: Utah Air Quality Board

FROM: Richard W. Sprott, Executive Secretary

DATE: November 22, 2006

SUBJECT: Variance Request – Brigham Young University (BYU), Deseret Towers  
Demolition

This variance request is to give BYU and their contractor relief from the fugitive dust rules during the implosion of Deseret Towers buildings V and W using explosive methods for the implosion.

Review of the variance request submitted by email on November 20, 2006 noted the following concerns.

- 1) The variance was submitted on November 20, 2006 which was not 30 days prior to the scheduled Air Quality Board meeting date of December 6, 2006. As a result, staff have had just a few hours to review and make comments on the proposal and very little time to address any of the noted deficiencies with BYU or the contractors who will be doing the work.
- 2) The source has indicated that “there is no practicable means known or available for the adequate prevention, abatement or control of the air pollution involved.” Staff concur that it is impossible to contain dust resulting from an implosion, however it is the general opinion of the staff that using normal demolition procedures that are common to the area would result in less fugitive dust emissions. By normal demolition practices we mean using heavy equipment to demolish the building piece by piece while implementing an approved fugitive dust control plan.
- 3) Under item #5 on the request form, the specific rules that will be impacted are not given. The rules that are likely to be impacted are R307-309-5 and R307-309-8 which deal with fugitive dust opacity and fugitive dust relating to construction and demolition activities.
- 4) Item #6 indicates that the variance will be for 20 minutes. Staff believe that the dust

episode may last much longer than this period depending on numerous factors including weather conditions, building construction materials and method of implosion.

- 5) Item #7 relates to hardship and the source has indicated that noise of the demolition would disrupt the students. The staff believes that this is not a major concern. The clean up of the materials and removal of the debris will likely be just as noisy as normal demolition as it will be the same or similar equipment used to process the building debris whether the building is demolished using explosives or heavy equipment.
- 6) Item #8 required that alternatives be listed in lieu of a variance. There were no alternatives listed and the staff knows that there are alternatives available such as using heavy equipment, ball and crane, etc. The source also did not indicate any possible scenarios for controlling the potential dust from the project.
- 7) Item #9 indicates that the only advantage to be gained from using the variance will be that the students will have less disruption. No disadvantages were listed.
- 8) Item #10 asks for how the emissions will be reduced during the period of the variance. The method provided is the use of street sweepers. Street sweepers are not a preventative measure to control fugitive dust, rather they would be used in remediation of the dust after the implosion was completed and are limited to cleaning roads and other paved surfaces. Preventative methods could include using water cannons or some other method of dust suppression to try and control the dust or to wet the material sufficiently prior to implosion to minimize the extent of the dust episode.
- 9) Item #12 requires emissions data for the activity in a non-attainment area. No data or calculations were provided.
- 10) BYU also submitted an Implosion Monitoring report from Iowa State University Knapp & Storms Dormitories demolition. While this report addresses the air monitoring during the implosion of the buildings, there is no information about the buildings or how they compare to the Deseret Tower builds to be demolished at BYU. Without comparative information it is impossible to make any correlations between the two projects.

#### Recommendations:

It is the recommendation of the staff that the variance request submitted by BYU on November 20, 2006 along with the attached report submitted on November 22, 2006, not be approved. The applicant has failed to provide a justifiable reason for the use of implosion and the subsequent dust episode over the use of more traditional means of demolition for a building of this size and type. The applicant has also failed to demonstrate any methods that will be used to mitigate the potential dust episode or to provide any data on the impact on the National Ambient Air Quality Standards due to the use of the variance and the associated dust episode. It should also be noted that this variance comprises the demolition of only two of the seven buildings. If the rest of the buildings are to be demolished in the same fashion then those facts should be considered as well. Further submittals from BYU may be able to correct some of the listed concerns.

Attachments: Variance Request, Asbestos Survey Reports, Iowa State Study